

REMARKS

Claims 1 – 22 are pending in the application.

Claims 1 – 5, 11 – 15, and 21 – 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lor et al. U.S. Patent Publication No. 2004/0068668 A1 (hereinafter “Lor”), in view of Zargham et al., U.S. Patent Publication No. 2003/0229613 A1 (hereinafter “Zargham”)

Claims 6 – 10 and 16 – 20 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Entry of this Amendment is proper under 37 CFR §1.116 because the amendment: (a) places the application in condition for allowance for the reasons discussed herein; (b) does not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfies a requirement of form asserted in the previous Office Action; (d) does not present any additional claims without canceling a corresponding number of finally rejected claims; or (e) places the application in better form for appeal, should an appeal be necessary. The amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of the amendment is thus respectfully requested.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in

the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the elements of those claims on which it formerly depended or whether an independent claim has been rewritten to include the elements of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

Rejection Under 35 U.S.C. §103

Claims 1 – 5, 11 – 15, and 21 – 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lor in view of Zargham. The rejection is traversed.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP §2141. Establishing a *prima facie* case of obviousness begins with first resolving the factual inquiries of Graham v. John Deere Co. 383 U.S. 1 (1966).

The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the Graham factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the

reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." In re Kahn, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in KSR Int'l Co. v. Teleflex, Inc., 126 S. Ct. 2965 (2006); see also MPEP §2141.

According to MPEP §2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art" (quoting, In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). In addition, to establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all elements of the subject claim. In re Wada, 2007-3733 (BPAI Jan. 14, 2008) (citing, CMFT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed.Cir. 2003)).

A *prima facie* case of obviousness has not been established because the combination of Lor and Zargham does not teach or suggest all the claim elements. More specifically, Lor and Zargham, alone or in combination, fail to teach or suggest at least:

"selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer (I), where for each customer profit (U^I) equals weighted revenue (γV^I) less cost (C^I), ($U^I = \gamma V^I - C^I$), wherein said cost per customer comprises a total tunnel bandwidth cost (C_C^I) from said MAP to said CPE, and a cost (C_V^I) of provisioning an IPSG node,"

as recited in Applicants' claim 1 (emphasis added).

The Examiner suggests that Lor teaches selecting a subset of IPGs to maximize total profit resulting from provisioning VPN customers on the selected IPSGs because Lor describes centralized load balancing performed by a load balancing manager collocated with a WLAN switch (equated with Applicants' IPSG) and providing cheap multi-vendor support. In particular, the Examiner asserts that providing cheap multi-vendor support inherently maximizes profit. The Examiner also states that Lor does not disclose specific relationships that are used to maximize the profit; but asserts that such relationships are obvious in view of Zargham. Applicants respectfully disagree.

More specifically, with respect to cheap multi-vendor support, Lor describes:

“Also important is multi-vendor support, where the switch can unify upstream management info into the central manager and distribute downstream info in a vendor-specific fashion, thus providing simple, cheap multi-vendor support”

Lor, paragraph [0104]. However, Lor does not discuss or mention profit or maximizing profit in this description. In fact, nowhere in the disclosure does Lor even mention the term “profit.”

Moreover, maximized profit, and maximized total profit resulting from provisioning VPN customers on selected IPSGs in particular, is not inherent from the cheap multi-vendor support. In particular, cheap multi-vendor support may result in reduced expenses compared to a more expensive multi-vendor support. However, Lor does not describe providing of cheap multi-vendor support as a goal of its arrangement, and Lor’s description does not prevent existence of cheaper multi-vendor support arrangements. Furthermore, suggesting that expenses for providing multi-vendor support may be reduced falls short of teaching to maximize the profit, as required by Applicants’ claim 1. Even assuming that reducing expenses causes increasing of profit, such a profit is not necessarily maximized, and thus, maximizing profit is not inherent from teaching of cheap multi-vendor support.

Moreover, as described by Lor, cheap multi-vendor support results from providing a single switch that unifies upstream management info and distributes downstream info in a vendor-specific fashion. Assuming *arguendo* that Lor’s switch may be interpreted as Applicants’ IPSG, Lor still fails to teach the above recited features of claim 1 because providing or using a switch of certain characteristics, as described in Lor, is different from selecting a subset of switches, as required by Applicants’ claim 1. The Examiner’s arguments fail to explain how or why the selection process is taught by Lor or obvious based on the teachings of Lor. Furthermore, the portions of Lor cited by the Examiner are devoid of such a teaching.

In particular, the Examiner cites paragraphs [0031], [0105] – [0106], and [0113] – [0117]. Paragraph [0031] describes an enterprise WLAN environment, that such environment includes WLAN switches, and functionality of such switches. However,

paragraph [0031] is silent with respect to how and whether WLAN switches are selected. Paragraphs [0105] – [0106] describe the manner in which load balancing may be performed on access points, including centralized and distributed approaches. However, similar to paragraph [0031], these paragraphs also are silent with respect to how and whether WLAN switches are selected. Paragraphs [0113] – [0117] describe additional details regarding load balancing. However, as noted above with respect to paragraphs [0031] and [0105] – [0106], these paragraphs are similarly devoid of any teaching or suggestion of selecting a subset of IPSGs, as required by Applicants' claim 1.

Accordingly, contrary to the Examiner's suggestion, Lor does not teach or suggest selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, as recited in Applicants' claim 1. Because the Examiner fails to present arguments that such features are taught by Zargham, a *prima facie* case with respect to claim 1 has not been established.

Furthermore, contrary to the Examiner's assertion, Zargham does not teach or make obvious the computational relationships described in Applicants' claim 1. In particular, the Examiner states that Zargham, paragraph [0015], teaches that a profit for each customer equals weighted revenue less costs. However, this paragraph does not define a relationship between a revenue and costs or that a particular relationship between the two represents profit for a customer, as required by Applicants' claim 1. Rather, the cited paragraph merely mentions the terms "revenues" and "costs." Because the Examiner fails to explain why mere disclosure of the two terms makes a particular relationship between such terms obvious, a *prima facie* case of obviousness has not been established. Furthermore, claim 1 recites not just revenue, but "weighted revenue." Neither the cited portion of Zargham, nor the Examiner's argument, even mentions such a limitation, and thus, a *prima facie* case of obviousness has not been established.

The Examiner further asserts that Zargham teaches that the cost per customer comprises a total bandwidth cost from the mobile access point (MAP) to customer premise equipment (CPE) and cost of provisioning an IPSG node. In particular, with respect to the total bandwidth, the Examiner alleges that Zargham teaches such an element because Zargham teaches aggregating information on costs, revenues, and

bandwidth usage. Assuming that Zargham teaches aggregating information on bandwidth usage, such a teaching still falls short from defining the cost per customer as including cost of bandwidth for a tunnel between two specific points, i.e., MAP and CPE, as required by Applicants' claim 1. The Examiner provides no explanation with respect to the gap between the two, and thus, a *prima facie* case of obviousness has not been established.

The Examiner also alleges that Zargham teaches that the cost per customer comprises the cost of provisioning an IPSG node because Zargham discloses using additional criteria to optimize traffic routing, such as quality of service, profit margin, bilateral agreements, available capacity, network looping, inter-carrier looping, and minimum and maximum number of selected routes). However, such criteria do not include the cost of provisioning an IPSG node and the Examiner fails to provide an explanation as to why using such a cost would be obvious. Rejections under 35 U.S.C. §103 require clear articulations of reasons why the claimed invention would have been obvious. Because the Examiner provides no reasons as to why including the cost of provisioning an IPSG into the cost per customer is obvious, a *prima facie* case of obviousness has not been established.

Accordingly, Lor and Zargham, alone or in combination (assuming such combination is even possible), fail to teach or suggest at least:

“selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer (I), where for each customer profit (U^l) equals weighted revenue (γV^l) less cost (C^l), ($U^l = \gamma V^l - C^l$), wherein said cost per customer comprises a total tunnel bandwidth cost (C^l_c) from said MAP to said CPE, and a cost (C^l_v) of provisioning an IPSG node,”

as recited in Applicants' claim 1. As such, independent claim 1 is allowable under 35 U.S.C. §103(a) over Lor in view of Zargham. Independent claims 11 and 22 recite elements similar to those recited in independent claim 1 and discussed above, and as such, for at least the reasons discussed above, independent claims 11 and 22 also are allowable under 35 U.S.C. §103(a) over Lor in view of Zargham. Furthermore, because all of the dependent claims that depend from the independent claims include all the

elements of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable under 35 U.S.C. §103(a) over Lor in view of Zargham.

Claims 3 and 13

In addition to the reasons discussed above, a *prima facie* case of obviousness regarding claims 3 and 13 has not been established because Lor does not teach or suggest that the total bandwidth cost from the MAP to CPE includes dynamic bandwidth cost between MAP and IPSG and static bandwidth cost between IPSG and CPE.

More specifically, the Examiner asserts that such features are obvious because Lor discloses a load balancing manager examining two types of parameters in order to come up with a switching decision, i.e., static and dynamic parameters. Though Lor does disclose using two types of parameters and describes what those parameters are, teaching using such parameters to make a switching decision is entirely different from teaching that total bandwidth cost from a first point to a last point includes dynamic bandwidth cost from the first point to an intermediate point and static bandwidth cost from the intermediate point to the last point, as required by Applicants' claims 3 and 13. The Examiner fails to provide any explanation as to how the latter is obvious in the view of the former, and thus, a *prima facie* case of obviousness has not been established. Accordingly, claims 3 – 13 are allowable under 35 U.S.C. §103(a) over Lor in view of Zargham.

Therefore, for at least the reasons discussed above, Applicants' claims 1 – 5, 11 – 15, and 21 – 22 are allowable under 35 U.S.C. §103(a) over Lor in view of Zargham. The Examiner is respectfully requested to withdraw the rejection.

Allowable Subject Matter

Claims 6 – 10 and 16 – 20 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants thank the Examiner for indicating allowability with respect to claims 6 – 10 and 16 – 20. For the reasons set forth above, Applicants submit that the independent base claims are allowable and, as such, dependent claims 6 – 10 and 16 – 20 are also allowable. The Examiner is respectfully requested to withdraw the rejection.

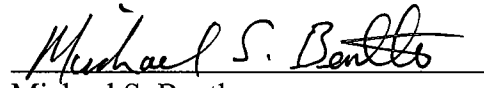
CONCLUSION

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, he is invited to call Eamon J. Wall at 732-842-8110 x120 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

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